



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,638	09/16/2003	Peter L. Bakos	03023256	1908
26565	7590	02/22/2008		
MAYER BROWN LLP			EXAMINER	
P.O. BOX 2828			LEWIS, BEN	
CHICAGO, IL 60690			ART UNIT	PAPER NUMBER
			1795	
			MAIL DATE	DELIVERY MODE
			02/22/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/663,638	Applicant(s) BAKOS ET AL.
	Examiner Ben Lewis	Art Unit 1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on _____.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 15-18, 23, 25-28 and 30-36 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 23, 25-28 and 30-36 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 07 December 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

Detailed Action

1. The Applicant's amendment filed on October 10th, 2007 was received. Claims 23, 25, 28 and 30 were amended. Claims 1-14, 19-22, 24 and 29 were cancelled. Claim 36 was added.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action (issued on June 1st, 2007).

Claim Rejections - 35 USC § 103

3. Claims 23, 26 and 30, 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ratte et al. (U.S. Patent No. 6,902,095 B2) and Williamson et al. (U.S. Patent No. 5,533,764) and further in view of Whitney (U.S. Patent No. 2,353,531).

With respect to claims 23, 26 and 30, 32-35, Ratte et al discloses a method of cold forming a two-part battery terminal and a two-part cold formed battery terminal comprising a cold formed lead or lead alloy slug having a male fastener protruding from one side of the cold formed slug with a head portion "first portion" of the fastener rotationally retained and embedded in the battery terminal by cold formed lead or lead alloy around the end face of the fastener (Col 1 lines 45-51) (See Fig. 5).

With respect to a threaded portion, Ratte et al. teach that FIG. 5 is a cross-sectional view of the partially formed battery terminal of FIG. 4 with the head of a threaded male fastener and a portion of the shank of the threaded male fastener embedded in the battery terminal (Col 1 lines 60-67).

Ratte et al do not specifically teach a bolt with a tapered sealing portion. However, Williamson teach a transversely hydraulic coupling with lipped port wherein Collar 430 has external tapered surfaces 431 and 432 which sealingly engage body 405 and port 401', respectively. External tapered surface 431 extends into body 405 to engage internal tapered surface 406. Also, external tapered surface 432 extends into port 401' to engage internal tapered surface 413 (Col 9 lines 64-67).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the tapered portion "frusto-conical shape" of Williamson et al into the bolt of Ratte et al because Williamson et al teach that external tapered surfaces provide a seal (Col 9 lines 64-67).

With respect to washer portion including radial projections extending there from, Whitney teaches an integral washer 11 as seen in figure 1 which includes projection 12, and also wherein the washer is regarded as having semi-circular projections below the head flats as seen in figure 1. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a washer with the bolt head of Ratte et al. as modified by Williamson et al, in view of the teaching of Whitney, the motivation being to strengthen the seal of the bolt head of Ratte et al. as modified by Williamson et al.

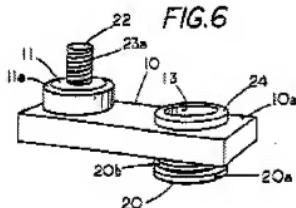
With respect to claims 23, 32 and 35, claims 23, 32 and 35 are product by process claims. The insert molding of the bolt as molten lead, does not further limit the

product of claim 15. MPEP 2113 states, "Even though product-by-process claims are limited by and defined by the process, determination of patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F. 2d 698,227 USPQ 964,966 (Fed Cir. 1985). Since Applicant's product claim contains a process of insert molding of the bolt as molten lead, then the process of "insert molding of the bolt as molten lead" is not given patentable weight in this claim.

With respect to claim 25, Ratte et al. teach that FIG. 4 shows that male fastener 22, which has a shank having a non-threaded portion 23 and a threaded portion 23a has been axially inserted into chamber 16a with the threaded shank 23a of the male fastener 22 extending outward for securement of a female fastener thereto (Col 3 lines 5-15).

With respect to claim 35, Ratte et al discloses a method of cold forming a two-part battery terminal and a two-part cold formed battery terminal comprising a cold formed lead or lead alloy slug (subassembly) having a male fastener protruding from one side of the cold formed slug with a head portion of the fastener rotationally retained and embedded in the battery terminal by cold formed lead or lead alloy around the end face of the fastener (Col 1 lines 45-51) (See Fig. 5).

With respect to claim 33, Ratte et al. disclose a helical threaded portion (See Fig. 6).



4. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ratte et al. (U.S. Patent No. 6,902,095 B2) and Williamson et al. (U.S. Patent No. 5,533,764) as applied to claim 26 above and further in view of Landgrebe (U.S. Patent No. 5,704,749).

With respect to claim 31, Ratte et al. as modified by Williamson et al has been discussed in paragraph 2 above. Landgrebe teaches a bolt 15 with a non-threaded portion 19 above the threaded portion 21, as well as a sealing, tapered portion 17 which bottoms against a planar surface 35 of a recessed portion 33 of an internally threaded body (B) (Col 3 lines 50-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the tapered 432 abutment of Ratte et al. as modified by Williamson et al such that the tapered portion 432 abuts a planar surface of a recessed portion of the nut 303, in view of the teaching of Landgrebe, the motivation being to prevent over-torquing of the bolt 409 (See Figs 12 and 16).

5. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ratte et al. (U.S. Patent No. 6,902,095 B2) and further in view of Williamson et al. (U.S. Patent No. 5,533,764).

With respect to claim 27, Ratte et al. teach that FIG. 5 is a cross-sectional view of the partially formed battery terminal of FIG. 4 with the head of a threaded male fastener and a portion of the shank of the threaded male fastener embedded in the battery terminal (Col 1 lines 60-67).

Ratte et al do not specifically teach a bolt with a tapered sealing portion and the shank portion has a larger diameter than a second end of said sealing portion that is connected to said thread portion. However, Williamson teach a transversely hydraulic coupling with lipped port wherein Collar **430** has external tapered surfaces **431** and **432** which sealingly engage body **405** and port **401'**, respectively "larger shank diameter and smaller sealing portion diameter". External tapered surface **431** extends into body **405** to engage internal tapered surface **406**. Also, external tapered surface **432** extends into port **401'** to engage internal tapered surface **413** (Col 9 lines 64-67).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the tapered portion "frusto-conical shape" of Williamson et al into the bolt of Ratte et al because Williamson et al teach that external tapered surfaces provide a seal (Col 9 lines 64-67).

Art Unit: 1795

6. Claims 28 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ratte et al. (U.S. Patent No. 6,902,095 B2) in view of Williamson et al. (U.S. Patent No. 5,533,764) as applied to claim 23 above and further in view of Whitney (U.S. Patent No. 2,353,531) and further in view of Lohr (U.S. Pub. No. 2003/0215302 A1).

With respect to claims 28 and 36, Ratte et al. as modified by Williamson et al has been discussed in paragraph 3 above. Ratte et al. as modified by Williamson et al. do not specifically teach wherein the ratio of a height of said head portion to the thickness of said washer portion is 1.24. However, Lohr disclose an oversized wrenching head tension control bolt (title) wherein, Referring to FIG. 2, an alternate embodiment of heavy head bolt 110 is depicted. In such instances flange 132 can be constructed to a predetermined size when a minimum washer thickness is required. Heavy head bolt 110 is similar to oversized head bolt 10, except for the dimensions of heavy head 112. Flange section 132 is constructed to a predetermined height 118 of at least the minimum structural steel framing industry standard height of washer 80. Wrenching section 130 is constructed to a height of at least the minimum structural steel framing industry standard height for hexagon head 312. Such heavy head bolt 110 accordingly meets the cumulative industry thickness standards for a bolt head and a washer (Paragraph 0080) (See Fig 2). Therefore, it would have been within the skill of the ordinary artisan to adjust the bolt and flange "washer" height of Ratte et al. as modified by Williamson et al to within a ratio as claim by Applicant in order to meet minimum structural strength requirements. *Discovery of optimum value of result effective variable*

in known process is ordinarily within skill of art. In re Boesch, CCPA 1980, 617 F.2d 272, 205 USPQ215.

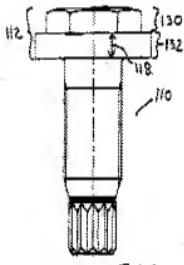


Fig. 2

Response to Arguments

7. Applicant's arguments filed on October 10th, 2007 have been fully considered but they are not persuasive.

Applicant's principal arguments are

- (a) *Nowhere in the specification of Whitney does it teach that these ribs 11 and 12 serve to prevent rotation of the mated screw or in any way make the screw or screw head "stronger." Rather, Whitney specifically teaches that these ribs serve only "to provide a series of angular self-cleaning grooves around the entire periphery of the base of said flange" 11. (see Whitney col.1, line 51 - col. 2, line 2). Thus Whitney does not teach a*

"washer" having radial projections to prevent rotation of a bolt, nor does it teach that such projections would strengthen a screw or bolt head. Therefore, there would be no motivation to combine the teachings of Whitney with any of the prior art because the teachings of Whitney would not be expected to provide any benefit to the problem addressed by the Inventor.

(b) The Examiner has previously stated that washers make the bolt or bolt head "stronger." Applicants respectfully disagree. Washers being used in either of the environments, traditional or encased in lead, do not in any way "strengthen the bolt head," regardless of the shape. As stated previously, traditional washers serve to distribute load over larger surface areas, but that does not however increase the strength of the bolt head. The Applicant's "washer" in the present invention serves to prevent rotation by utilizing the additional surface area created by the circumferential side faces of the radial projections in order to distribute the torque placed on the bolt. Again however, it does not make the bolt head stronger. Therefore, because of the very different environments in which traditional washers and the "washer" of the present invention operate as well as the very different mechanics of how they serve their function and the problem that each solves, there would be no motivation to combine the teachings of the prior art cited by the examiner for use in the environment or manner contemplated by the Applicant in the present invention.

Art Unit: 1795

(c) With regard to the sealing portion of claim 23, Applicant respectfully disagrees with the Examiner in that the claim limitations drawn to the sealing portion are not process limitations. The tapered sealing portion and its limitations are physical limitations on the article itself. Moreover, in the prior art of Ratte, one skilled in the art would not have been faced with a leakage problem, so one skilled in the art would not need a sealing portion as it would provide any benefit in the environment of Ratte. Accordingly, there would be no motivation to combine the teachings of Williamson with the environment and the teachings of Ratte.

(d) Applicant respectfully submits that he does not know to what the Examiner is referring when he discusses the "tapered 432 abutment of Ratte" as there is no element 432 in Ratte. Furthermore, Applicant respectfully disagrees with the Examiner that it would have been obvious "to modify the tapered abutment 432 of Ratte et al. as modified by Williamson such that the tapered portion 432 abuts a planar surface of a recessed portion of the nut 303, in view of the teachings of Langrebe, the motivation being to prevent over-torquing of the bolt 409." In the Applicant's invention the tapered surface has nothing to do with preventing overtorquing of the bolt and does not function to do so. Accordingly, the Examiner has assigned a specific function or purpose to a feature of Applicant's invention, which that feature is not intended 'to serve. Therefore, the motivation to combine references cited by Examiner has been overcome because the Examiner misread the purpose and function of the tapered surface of Applicant's invention.

In response to Applicant's arguments, please consider the following comments.

(a) and (b) In response to applicant's argument that "nowhere in the specification of Whitney does it teach that these ribs 11 and 12 serve to prevent rotation of the mated screw or in any way make the screw or screw head "stronger.", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Furthermore, examiner notes that the washer of Whitney strengthens the bolt of Ratte in that the washer strengthens the seal of the bolt of Ratte as opposed to having a bolt alone.

(c) The insert molding of the bolt as molten lead, does not further limit the product of claim 15. MPEP 2113 states, "Even though product-by-process claims are limited by and defined by the process, determination of patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F. 2d 698,227 USPQ 964,966 (Fed Cir. 1985). Since Applicant's product claim contains a process of insert molding of the bolt as molten lead, then the process of "insert molding of the bolt as molten lead" is not given patentable weight in this claim.

With respect to Applicants argument that "there would be no motivation to combine the teachings of Williamson with the environment and the teachings of Ratte."

Art Unit: 1795

Examiner notes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the tapered portion “frusto-conical shape” of Williamson et al into the bolt of Ratte et al because Williamson et al teach that external tapered surfaces provide a seal (Col 9 lines 64-67).

Examiner notes that the cold forming process of Ratte et al. provides sufficient force to the lead to be molded in order for it to be in fluid form therefore the lead of Ratte et al. during the molding process is susceptible to being leaked.

(d) Examiner notes that there was a typographical error in the previous office action “*tapered 432 abutment of Ratte*” should read “*tapered 432 abutment of Williamson et al.*”

With respect to Applicant’s argument that “in the Applicant’s invention the tapered surface has nothing to do with preventing overtorquing of the bolt and does not function to do so.” Examiner notes that: Apparatus claims must be structurally distinguishable from the prior art. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). “[A]pparatus claims cover what a device is, not what a device does.” Hewlett Packard Co. V. Baush & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528, (Fed. Cir. 1990). (Examiner notes that if the prior art structure is capable of performing the intended use, then it meets the claim).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben Lewis whose telephone number is 571-272-6481. The examiner can normally be reached on 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ben Lewis

Patent Examiner
Art Unit 1795

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795